Candidates Name: …….....

Signature: ….....

Random No.						Personal No.		

(*Do not write your School/ Centre Name or Number anywhere on this Booklet.*)

545/2&3
CHEMISTRY
Paper 2
2024
2 Hours

UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

CHEMISTRY

Paper 2&3
Practical

2 Hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of **one compulsory** examination *item. Answers to this item are to be written in the spaces provided in this booklet. Use* **blue** *or* **black** *ink.*

All working must be clearly shown. Graph paper will be provided.

Mathematical table and silent non-programmable scientific calculators may be used.

You are **not** *allowed to use reference books* (*i.e. text books, booklets on qualitative analysis etc.*)

Candidates are advised to carefully read the item, make sure they have all the apparatus and chemicals they may need and then **plan** *appropriately before starting.*

 Turn Over

Item1.

An organisation operating in fishing around Lake Kyoga organised a workshop to train local fish dealers on how to make common salt on a small scale which they can use to preserve fish fresh. This involved mixing sodium hydroxide and hydrochloric acid. During the training, a participant was randomly picked and instructed to add a prepared solution of an acid to a base solution in a container. The participant noted that the container became warmer as he kept on adding the acid. He could not understand why and how much heat had been generated.

Sodium hydroxide reacts with hydrochloric acid according to the following equation.

$$NaOH_{(aq)} + HCl_{(aq)} \rightarrow NaCl_{(aq)} + H_2O_{(l)} + Heat$$

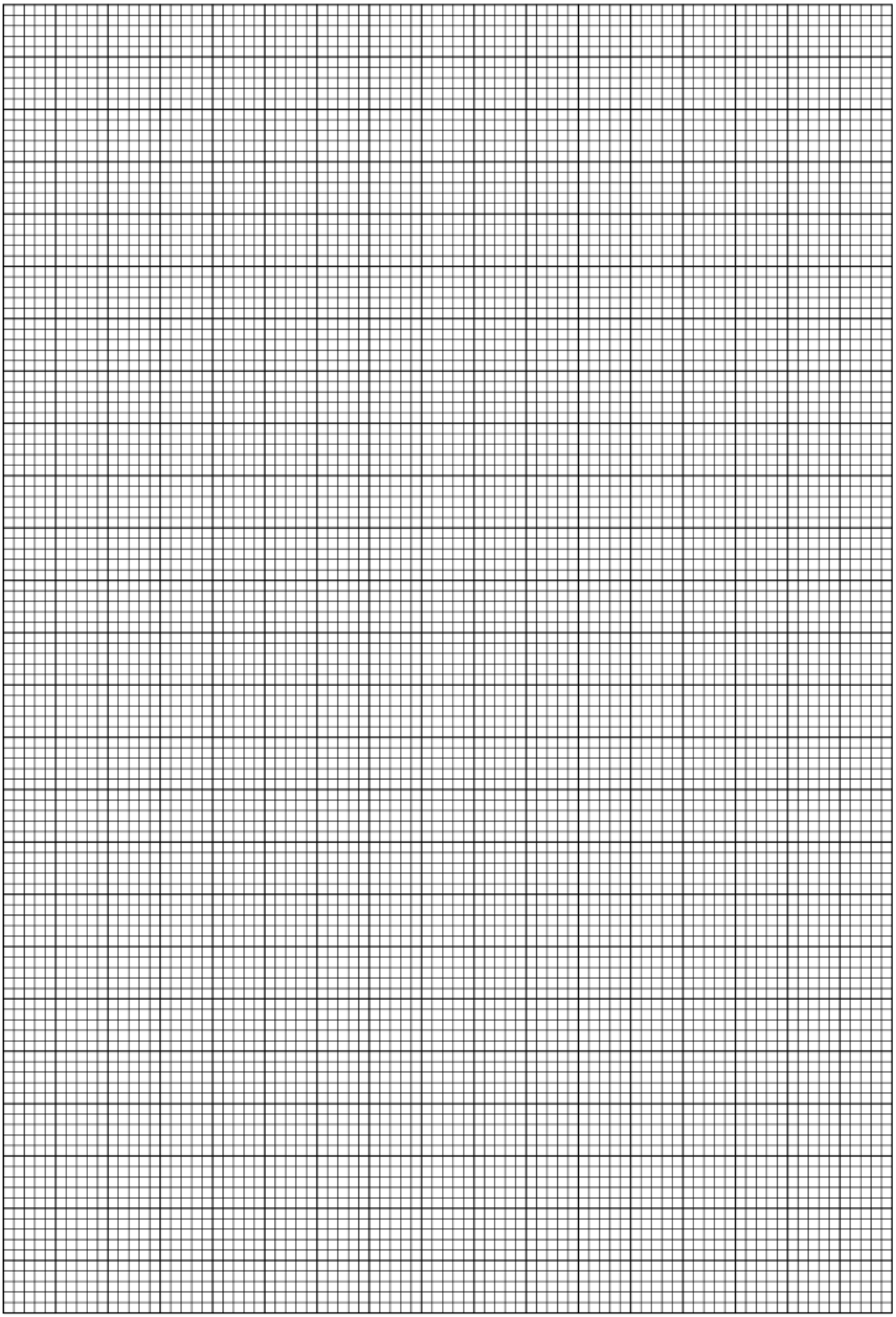
The heat produced varies with the volume of acid added to the base.

The acid provided is labeled **BA1** and the base provided is labeled **BA2**.

Task:

(a) As a learner of chemistry;

(i) design an experiment you will carry out to determine the amount of heat, produced during reaction between **BA1** and **BA2** or produced when **BA1** is added to **BA2**.



(ii) carry out the experiment and record your findings.

(iii) Obtain the maximum heat produced during the reaction.

(b) What can the participant deduce from your findings?

END